



## State of Utah

### Department of Natural Resources

MICHAEL R. STYLER  
*Executive Director*

### Division of Oil, Gas & Mining

MARY ANN WRIGHT  
*Acting Division Director*

JON M. HUNTSMAN, JR.  
*Governor*

GARY R. HERBERT  
*Lieutenant Governor*

February 9, 2005

Tom Belchak  
LANCE Consulting Group, L.C.  
1780 West 9000 South  
Suite 301  
West Jordan, Utah 84088

Subject: Request for Information on Kennecott Copper Corporation's Bingham Canyon Permit, M/035/002, Salt Lake County, Utah

Dear Mr. Belchak:

On January 4, 2005 the Division received your faxed letter wherein you requested information and documents regarding the Kennecott Utah Copper Corporation. This letter is our response.

- 1) *You asked to understand the mechanism by which KUCC extended the permit to include Real Estate that the company does not own.*  
The permit area for the Kennecott Bingham mine was determined sometime around 1978 and was based upon what was submitted by KUCC. Back then much of the area was open farm ground and the permit area encompassed a number of private in-holdings. It is unclear exactly how the boundary was determined especially since our current rules for the minerals program were not put in place until November 1, 1988. Under the previous rules, Right-of-entry was not an issue. A possibility could also be that Kennecott controls the mineral rights, which would also give them a right to conduct mining on this area even though they might not own the surface. Regardless of how the permit boundary was determined, the boundary itself is not as important as Kennecott recognizing the need to be responsible for the reclamation of its areas of disturbance.
- 2) *You asked for copies of Notice of Intent dated August 9, 1976 and the Board Decision and contract dated February 22, 1978.*  
Copies of these documents have been enclosed.

Tom Belchak  
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M/035/002  
January 26, 2005

- 3) *You asked for documentation regarding the permanent closure of excess water disposal facilities in 1987.*

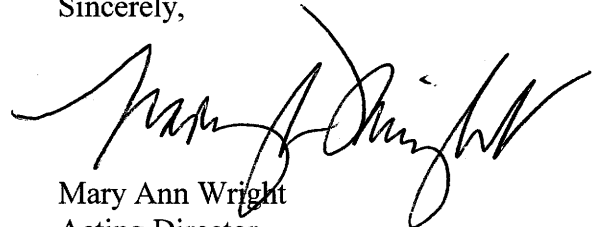
Water disposal facilities at that time would have been regulated under the Department of Health Bureau of Water Pollution Control. DOGM would have been mostly concerned with the reclamation of the surface disturbance, not the disposal of water.

- 4) *You asked to be notified of any opportunity to comment to the Division or Board with respect to the request for release of the Real Estate from the permit area.*

The Division will keep you apprised of the progress on this request for release of the 10 sections, assuming you are listed as a landowner on this area. Notice of actions such as the release of bonds or acreage do get published in the papers, and the public does have opportunity to comment and participate at that time. The Division has informed (Letter dated January 20, 2005) Kennecott Utah Copper Corporation that the areas are part of the Bingham Canyon Permit which is covered by a Board Contract. Because reclamation of the mining related disturbances are guaranteed by this contract, release from any portion of the areas covered by the permit will require Board approval. KUCC will need to approach the Board and petition for release.

If you have further questions concerning this letter, please contact me or Daron Haddock at 801-538-5325.

Sincerely,



Mary Ann Wright  
Acting Director

EXHIBIT A  
MINING APPLICATION  
NO. ACT-035-002  
Date Aug. 1, 1976

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING  
1538 West North Temple  
Salt Lake City, Utah 84116



NOTICE OF INTENTION TO COMMENCE MINING OPERATIONS  
(See Rule M of General Rules and Regulations)

1. Name of Applicant or Company Kennecott Copper Corporation, Utah Copper Division  
Corporation (X) Partnership ( ) Individual ( )

2. Address P. O. Box 11299, Salt Lake City, Utah 84147  
Permanent

3. Name and title of person representing company B. B. Smith, General Manager

4. Address P. O. Box 11299, Salt Lake City, Utah 84147 Office Phone 322-1533

5. Location of Operations Salt Lake and Tooele within the following sections:  
County

Sec 7, 8, 9, 10, 11, 17, 18, 19, 20, 21, 30, 31 & 32, T1S, R2W, SLB&M;  
Sec 9, 10, 11, 12, 13, 14, 15, 16, 22, 23, 24, 25, 26 & 36, T1S, R3W, SLB&M;  
Sec 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 22, 23, 27, 28 & 33, T2S, R2W, SLB&M;  
Sec 7, 17, 18 & 19, T3S, R1W, SLB&M;  
Sec 4, 8, 9, 13, 14, 15, 16, 17, 18, 19, 20, 21, 24, 25, 28, 29, 30, 31 & 32, T3S, R2W, SLB&M;  
Sec 11, 12, 13, 14, 15, 21, 22, 23, 24, 25, 26, 27, 33, 34, 35 & 36, T3S, R3W, SLB&M;  
Sec 6 & 7, T4S, R2W, SLB&M;  
Sec 1, 2, 3, 11 & 12, T4S, R3W, SLB&M.

6. Name of Mine Bingham Canyon Mine

7. Mineral to be mined:

Mining methods:

( ) Coal ( ) Flagstone  
(X) Copper ( ) Gravel  
( ) Manganese ( ) Shale  
( ) Iron Ore ( ) Uranium  
( ) Phosphate ( ) Gilsonite  
( ) Potash ( ) Bituminous Sandstone  
( ) Fluorspar ( ) Tungsten  
(X) Other (specify) Minerals associated with copper.

Open pit, waste leaching,  
insitu leaching, under-  
ground.

8. Have you or any person, partnership or corporation associated with you received an approved Notice of Intention to Commence Mining Operations by the State of Utah for operations other than described herein?

( ) Yes (X) No \*

If yes, list all approval numbers now under surety:

\* Kennecott's Tintic Mines Division may have requested approval.

9. Owner/Owners of record of the surface area within the land to be affected:

<u>Kennecott Copper Corporation</u>	Address	<u>161 East 42nd Street, New York, NY 10017</u> (Local Office)
<u>U. V. Industries</u>	Address	<u>University Club Bldg, Salt Lake City, UT</u> (Local Office)
<u>The Anaconda Company</u>	Address	<u>1849 West North Temple, Salt Lake City, UT</u>

10. Owner/Owners of record of minerals to be mined:

<u>Kennecott Copper Corporation</u>	Address	<u>161 East 42nd Street, New York, NY 10017</u> (Local Office)
<u>U. V. Industries</u>	Address	<u>University Club Bldg, Salt Lake City, UT</u>

11. Owner/Owners of record of all other minerals within any part of the land affected:

<u>The Anaconda Company</u>	Address	<u>(Local Office)</u> <u>1849 West North Temple, Salt Lake City, UT</u>
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11a. Have the above owners been notified in writing?  
( X ) Yes ( ) No

12. Source of Operator's legal right to enter and conduct operations on land to be covered by the Notice:

Legal documents, including deeds, easements, mining claims, agreements,  
licenses, etc.

13. Approximate acreage to be disturbed:

Mine	3,100 acres
Mine waste disposal	8,000 acres
Excess mine water disposal	2,700 acres
Ore transfer - mine to process	400 acres
Ore processing facilities	1,800 acres
Tailing disposal	6,000 acres
Excess process water disposal	<u>1,000 acres</u>
Total	23,000 acres

14. Give the names and post office addresses of every principal Executive, Officer, Partner, (or person performing a similar function) of Applicant:

Name:	Title:	Address:
a. <u>B. B. Smith</u>	<u>General Manager</u> <u>Utah Copper Division</u>	<u>P. O. Box 11299</u> <u>Salt Lake City, UT 84147</u>
b. <u>H. H. Kremer</u>	<u>President</u> <u>Metal Mining Division</u>	<u>161 East 42nd Street</u> <u>New York, NY 10017</u>
c. <u>F. B. Milliken</u>	<u>President</u>	<u>161 East 42nd Street</u> <u>New York, NY 10017</u>

Has Applicant, any subsidiary or affiliate of any person, partnership, association, trust, or corporation controlled by or under common control with Applicant, or any person required to be identified by Item 14, ever had an approval of a Notice of Intention withdrawn or has surety relating thereto ever been forfeited?

( ) Yes (X) No

If yes, explain:

STATE OF UTAH )  
 : ss  
COUNTY OF SALT LAKE )

I, B. B. Smith, having been duly sworn depose and attest that all of the representations contained in the foregoing application are true to the best of my knowledge; that I am authorized to complete and file this application on behalf of the Applicant and this application has been executed as required by law.

KENNECOTT COPPER CORPORATION  
Utah Copper Division

By

B. B. Smith  
Its General Manager

Taken, subscribed and sworn to before me the undersigned authority in my said county, this 9<sup>th</sup> day of August, 1976.

Leitha. Hansen  
Notary Public

My Commission Expires:

November 1, 1979

## MINE PLANT FACT SHEET - AUGUST, 1975

### 1. HISTORICAL STATISTICS

- 1.1 The mine started operation in 1904. Since then, over 3.5 billion tons of ore and waste material have been removed, with over 10.7 million tons of copper produced. Through July, 1975; ore milled = 1,330,071,800 tons; waste removed = 2,337,141,402 tons; stripping ratio = 1.76:1; copper produced = 10,819,807 tons.
- 1.2 The Utah Copper Division produces about 15% of the nation's newly mined copper each year with by-products of gold, silver, molybdenum, platinum, palladium, selenium, and rhenium.
- 1.3 The mine has many distinctions: it is the first open pit mine in the copper industry; it is the largest single mining operation ever undertaken; it has produced more copper than any individual mine in history; it is the largest man-made excavation in the world (1,800 acres).

### 2. GEOLOGY

- 2.1 The porphyry copper ore body is centered in and around a complex granitic stock.
- 2.2 Age of the granite is 37-million years (Tertiary). Age of surrounding sedimentary rocks (quartzite and limestone) ranges from 240 to 300 million years (Permian and Pennsylvanian).
- 2.3 Ore mineralization is genetically associated with the granitic stock.
- 2.4 Granite and granite porphyry are the most important host rocks. Some ore also occurs in the adjacent quartzite and metamorphosed limestones.

### 3. MINERALS

- 3.1 The most important copper minerals are chalcopyrite, bornite and chalcocite. Copper oxide minerals are negligible. Most of the secondary enriched ore has been mined.
- 3.2 Molybdenite (moly) is associated with the copper minerals and is recovered as a by-product at the concentrators. The trace element, rhenium, is recovered in the molybdenic-oxide plant at the smelter.
- 3.3 Gold and silver are by-product values that are recovered in the electrolytic refining of smelter anode copper. Other minor by-product values include selenium, tellurium, bismuth, platinum and palladium.
- 3.4 Pyrite is the common sulphide gangue mineral. Sulphuric acid is produced as a by-product from the smelting of the concentrates which contain the copper sulphide minerals and some pyrite.
- 3.5 Lead, silver and zinc ores occur in the peripheral areas around the pit. These lode ore deposits were mined by underground methods from 1863 through 1971 by companies such as U. S. Smelting, Refining and Mining Company, Boston Consolidated, National Tunnel, and New Bingham Mary Mining Company.

### 4. OVERBURDEN

- 4.1 Two categories of waste occur in the mine:
  - 4.1.1 The iron-stained rock that has been oxidized and naturally leached of its sulphide minerals.
  - 4.1.2 The part of the gray and white unoxidized rocks that contain less than 0.4% Cu (cutoff). The copper minerals of the latter material are artificially leached in the dumps, and the copper is recovered in the precipitation plant.

5. SIZE OF ORE BODY, MINE LIFE, ETC.

- 5.1 Ore grade decreases toward edges and with depth. Cutoff grade is primarily determined by economic factors, rather than geologic features.
- 5.2 Ore reserves can be expanded by advancements in technology and cost reduction; conversely, they could be decreased by factors that would narrow the margin of profit.

6. CURRENT STATISTICS

- 6.1 The excavation covers 1,800 acres. From east to west the pit is over 2-1/4 miles wide at the top, and it is almost 1/2 mile deep from the bottom to the top (5,290 to 7,780 feet above sea level).
- 6.2 There are 55 benches in the mine. In the rail haulage area there are 21 benches, and in the truck area (above 6340 level) there are 22 benches on the east side (top 7325) and 34 benches on the west side (top 7780). The benches vary in height from 40 to 50 feet, and in width from 35 to 125 feet. The benches in the truck area are presently being converted from 40 feet to 50 feet in height and in the rail haulage area they are a nominal 50 feet in height.
- 6.3 Average daily production rates:

	<u>1975 Goal</u>
Ore	108,000 tons
Rail Waste	52,500 tons
Truck Material	282,400 tons
Smelter Flux	<u>413 tons</u>
Total Material Hauled Per Day	443,313 tons

+++++  
+ On October 13, 1974, a record for material handled during a 24-hour period +  
+ was set. On that day, the mine trucks and trains hauled 504,167 tons. This +  
+ is also a world record. +  
+++++



- 6.4 Stripping ratio = approximately 3.0:1 (three tons of waste removed to every ton of ore).
- 6.5 Average copper content of ore = approximately 0.62% (a little over 12 pounds of copper per ton of ore).
- 6.6 Explosives - 97,000 pounds of explosives and blasting agents are used per day (approximately 30,600,000 pounds per year). For every pound of explosive used, 4.30 tons of material are mined.

## 7. EQUIPMENT AND FACILITIES

- 7.1 There are approximately 100 miles of standard gauge railroad track, all under direct centralized traffic control. There are 106 rail switches within the C.T.C. system.

- 7.2 There are four entry points into the mine railroad proper: One via switchback and three through tunnels:

- 6190 level - switchbacks
- 6040 tunnel - 3,450 feet long
- 5840 tunnel - 6,100 feet long
- 5490 tunnel - 17,050 feet long

### 7.3 Equipment

Shovels - Total 39 (operate from 5,500 volt AC).

- 6 - 15-yard Marion 191-M (ES 17, 18, 20, 22, 27, & 34).
- 3 - 15-yard P. & H. 2100 (ES 19, 28, & 35).
- 1 - 12-yard P. & H. 2100 (ES 12).
- 9 - 8-yard Marion 151-M (ES 1, 3, 7, 8, 9, 10, 13, 43, & 44).
- 2 - 8-yard Bucyrus-Erie 190-B (ES 16 & 21).
- 5 - 7-yard Marion 4161 (ES 2, 25, 33, 40, & 42).
- 11 - 6-yard Marion 4161 (ES 4, 5, 14, 15, 23, 24, 26, 30, 32, 36, & 37).
- 2 - 25-yard P. & H. 2800 (ES 38 & 39) - are presently being received and erected.

### 7.3 Equipment (Continued)

#### Haulage Trucks - Total 113 (from 65-ton to 150-ton capacity)

- 48 - Haulpak 65-ton end dump.
- 8 - Lectra Haul 100-ton end dump.
- 5 - Haulpak 100-ton end dump.
- 5 - Haulpak 150-ton end dump.
- 42 - Lectra Haul 150-ton end dump
- 5 - Terex 150-ton end dump

#### Locomotives - Total 69

- 46 - G.E. 85-ton class (electric)
- 4 - G.E. 90-ton class (electric)
- 9 - G.E. 125-ton class (electric)
- 1 - G.E. 100-ton class (electric)
- 3 - G.E. 70-ton class (diesel)
- 6 - EMD 125-ton class (diesel-electric)

#### Rotary Drills - Total 18

- 9 - Bucyrus-Erie 60R, 12 1/4"
- 4 - Bucyrus-Erie 30R, 6 3/4"
- 5 - Ingersoll-Rand DM-4, 7 7/8"

## 8. PRECIPITATION PLANT

- 8.1 The precipitation plant consists of two cone modules, or structures, each housing 13 cone units. The modules can be operated either in series or parallel, depending on the volume of incoming solutions and the desired solution tailing grade. Each of the 26 cones is designed to process copper-bearing solutions on a continuous basis, discharging a copper precipitate slurry at preset intervals into a thickener. The slurry is then pumped to a surge-mixing tank.
- 8.2 Precipitate slurry is pumped from the tank to filter presses for de-watering and drying, then the precipitate material is conveyed to a loading and storage building where weighing, sampling and loading for smelter delivery take place.
- 8.3 Tailing solution from the cones passes through two large settling basins. The overflow goes to the sump of the central pump station.
- 8.4 The distribution system delivers leaching solution from the central pumping station  $6\frac{1}{2}$  miles and 2,000 feet vertically to west side mine dumps and  $2\frac{1}{2}$  miles to a height of 1,720 feet on east side dumps. To accomplish this, the west side line is provided with two booster stations and the east side with one.
- 8.5 The water, distributed by the distribution system to the dump surfaces, percolates through the dumps dissolving soluble copper compounds. This copper bearing solution flows from the bottom of the dumps to a collection system which carries it back to the precipitation plant modules.
- 8.6 The entire leaching complex including solution distribution, collection, makeup and primary water systems and various specialized auxiliary

8. PRECIPITATION PLANT (Continued)

lines required installation of more than 45 miles of pipe. Because of various corrosive properties of some solutions, all operating under various heads of pressure, a variety of pipeline materials was necessary. These materials include stainless steel, steel pipe lined with plastic, and asbestos cement pipe lined with epoxy resin.

8.7 Makeup water for the system is supplied from run-off and well water and can be additionally supplied from irrigation canal pump stations about nine miles away. All water is stored in a 500-million-gallon surge storage reservoir.

8.8 The operation in the mouth of Bingham Canyon is the largest copper precipitate plant in the world, with a greater production capacity than many producing copper mines. The copper produced in these facilities is approximately 17% of the total mine output.



STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
BOARD OF OIL, GAS, AND MINING  
1588 WEST NORTH TEMPLE  
SALT LAKE CITY, UTAH 84116

\* MINED LAND RECLAMATION CONTRACT \*

THIS CONTRACT, made and entered into this 28TH day of SEPTEMBER, 1978, between Kennecott Copper Corporation a corporation duly authorized and existing under and by virtue of the laws of State of Utah as party of the first part, and hereinafter called the Operator, and the BOARD OF OIL, GAS, AND MINING, duly authorized and existing by virtue of the laws of the State of Utah, as party of the second part hereinafter called the Board.

WITNESSETH:

WHEREAS, the Operator is the owner and in possession of certain mining claims and/or leases hereinafter more particularly mentioned and described in Exhibit "A" attached hereto.

WHEREAS, the Operator did on the Ninth day of August 1976, file with the Division of Oil, Gas, and Mining, a "Notice of Intention to Commence Mining Operations" and a "Mining and Reclamation Plan" to secure authorization to engage, or continue to engage, in mining operations in the State of Utah, under the terms and provisions of the Mined Land Reclamation Act, Section 40-8, U.C.A., 1953.

WHEREAS, the Operator is able and willing to reclaim the above mentioned, "lands affected" in accordance with the approved Mining and Reclamation Plan, the Mined Land Reclamation Act of 1975 and the rules and regulations adopted in accordance therewith.

WHEREAS, the Board has considered the factual information and recommendations provided by the Staff of the Division of Oil, Gas, and Mining as to the magnitude, type and costs of the approved reclamation activities planned for the land affected.

WHEREAS, the Board is cognizant of the nature, extent, duration of operations, the financial status of the Operator and his capability of carrying out the planned work.

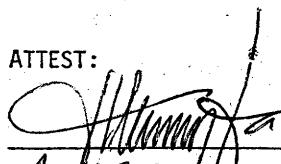
NOW THEREFORE, for and in consideration of the mutual covenants of the parties by each to the other made and herein contained, the parties hereto

agree as follows:


1. The Operator promises to reclaim the land affected in accordance with its Mining and Reclamation Plan which was approved by the Board on February 22, 1978, the Mined Land Reclamation Act, and the rules and regulations adopted in accordance therewith.
2. The Board, in lieu of accepting the posting of a bond or other surety, accepts the personal guarantee of the Operator to reclaim the land affected in accordance with its approved reclamation plan.
3. The Board and Operator both agree that the Operator will be obligated to expend a minimum average, excluding salaries, but not operating wages, of \$50,000 - 1978 dollars per year for each three (3) year period, in maintaining a program of experimentation and in the application of the best available technology toward rehabilitation of land associated with or affected by mining or processing operations.
4. The Board and Operator further agree that the annual expenditure as set forth in paragraph three (3) above, unless waived by the Board, will continue until mining as described in the notice of intention is permanently terminated, and that said annual expenditure will not constitute the fulfillment of the obligations of the Operator as to mined land reclamation. The Operator further agrees to waive the requirements for the fixed sum as surety as required in Section 40-8-14 (8), U.C.A., 1953.
5. The Operator agrees to provide to the Board and Division annually, a detailed report of reclamation work performed during the preceeding year, including a cost accounting for said reclamation work in 1978 dollars.
6. The Operator further agrees to work jointly with the Division in establishing annual reclamation plans for each forthcoming year. Said plan will be subject to the review of the Board. Consideration will be given to the annual report of the previous year in establishing such plans.
7. The Operator agrees to designate a responsible individual who is involved in the Operator's on-going reclamation efforts, who will serve as liaison to the Division.
8. This contract shall be binding on all successors and assigns, to the Operator.

IN WITNESS THEREOF, the parties of the first and second parts, hereto have respectively set their hands and seals this 28 day of September, 1978

ATTEST:

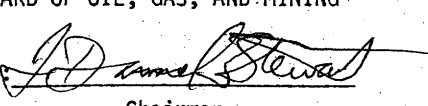
  
ASS'T Secretary

KENNECOTT COPPER CORPORATION

By:   
President  
Its Metal Mining Division

APPROVED  
Parsons, Cahle & Letimer  
By: 

BOARD OF OIL, GAS, AND MINING

By:   
Chairman

Note: If the Operator is a corporation, the agreement should be executed by its duly authorized officer with the seal of the corporation affixed.